

**MECHANISM FOR USING CLAMPING AND OFFSET TECHNIQUES TO  
ADJUST THE SPECTRAL AND WIDEBAND GAINS IN THE FEEDBACK  
LOOPS OF A BTSC ENCODER**

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**ABSTRACT OF THE DISCLOSURE**

[071] An integrated digital BTSC encoder substantially implemented on a single CMOS integrated circuit is described. By saturating and adding offsets to the value of the feedback control signal in regions of operation where the calculation for the control signal is dominated by noise, an integrated circuit selectively adjusts the control signal for the spectral or wideband feedback loop, as required, so that the performance of a very low noise digital BTSC encoder complies with the requirements of the BTSC standard.